

JUL 05 2006

Application No.: 10/721615

Docket No.: NGW-014

REMARKS

Applicants amend claim 1 to clarify the invention. No new matter is added. Upon entry of this amendment, claims 1-3 are pending, of which claim 1 is independent. Applicants respectfully submit that the pending claims define over the art of record.

Claim Rejection Under 35 U.S.C. §102

Claims 1-3 are rejected under 35 U.S.C. §102(e) as being anticipated by United States Patent Publication No. 2002/0094469 to Yoshizumi et al. (hereafter "Yoshizumi"). Applicants respectfully submit that the Yoshizumi reference fails to disclose the limitation that a hydrogen discharge from the fuel cell by the hydrogen discharge unit is prohibited in the event that the instantaneous hydrogen concentration does not exceed the first threshold; but the *average* hydrogen concentration calculated by the average hydrogen concentration calculating unit exceeds a second threshold which is lower than the first threshold, as recited in amended claim 1.

The Claimed Invention

The claimed invention is provided with a fuel cell system that can suppress the increase in concentration and quantity of hydrogen discharged from the fuel cell system. The hydrogen concentration detection unit is used to measure the concentration of hydrogen in the gas discharged from the hydrogen concentration reduction process unit. The hydrogen discharge unit is prohibited from discharging hydrogen not only when an instantaneous hydrogen concentration of a gas detected by the hydrogen concentration detection unit exceeds a first threshold, but also when the instantaneous hydrogen concentration of the gas does not exceed the first threshold but the *average concentration of hydrogen* calculated by the average hydrogen concentration calculating unit exceeds a second threshold so that the quantity and concentration of hydrogen in the discharged gas can be controlled before it is discharged into the atmosphere.

The Yoshizumi Reference

The Yoshizumi reference discloses a method of discharging gas by mixing hydrogen-off gas and oxygen-off gas and then supplying the mixed gas to a combustor 510. The combustor 510 causes the hydrogen and oxygen contained in the mixed gas to react with each other through

Application No.: 10/721615

Docket No.: NGW-014

combustion and hence further reduces the concentration of hydrogen contained in the mixed gas. The mixed gas whose concentration of hydrogen has been reduced by the combustor 510 is discharged to the atmosphere afterwards. See Fig. 1 and paragraphs 59 and 60. In other words, the Yoshizumi reference discloses that after the hydrogen concentration has been reduced (by combustion), the remaining gas are directly discharged to the atmosphere without any other measurement.

In contrast, in the claimed invention, hydrogen discharge from a gas processed by the hydrogen concentration reduction process unit is measured so that if the instantaneous hydrogen concentration is too high (i.e. exceeds a first threshold) after being processed by the hydrogen concentration reduction unit, then the hydrogen discharge unit is prohibited from discharging hydrogen from the fuel cell system. Moreover, in the claimed invention, the hydrogen discharge unit is prohibited from discharging hydrogen from the fuel cell system even if the instantaneous hydrogen concentration does not exceed the first threshold, but *the average hydrogen concentration calculated by the average hydrogen concentration calculating unit exceeds a second threshold*, as recited in amended claim 1.

Accordingly, Applicants respectfully submit that the Yoshizumi reference fails to disclose the limitation that a hydrogen discharge from the fuel cell by the hydrogen discharge unit is prohibited in the event that the instantaneous hydrogen concentration does not exceed the first threshold; but the *average hydrogen concentration calculated by the average hydrogen concentration calculating unit exceeds a second threshold* which is lower than the first threshold, as recited in amended claim 1. Applicants respectfully request that the Examiner reconsider and withdraw the rejection of independent claim 1.

Applicants note that the dependent claims also recite patentable subject matter. As such, for this and the reasons set forth above, Applicants respectfully submit that the dependent claims also define over the art of record.

Application No.: 10/721615

RECEIVED
CENTRAL FAX CENTER

JUL 05 2006

Docket No.: NGW-014

CONCLUSION

In view of the above amendment, Applicants believe the pending application is in condition for allowance.

Applicants believe no fee is due with this statement. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. NGW-014 from which the undersigned is authorized to draw.

Dated: July 5, 2006

Respectfully submitted,

By *Anthony A. Laurentano*
Anthony A. Laurentano
Registration No.: 38,220
LAHIVE & COCKFIELD, LLP
28 State Street
Boston, Massachusetts 02109
(617) 227-7400
(617) 742-4214 (Fax)
Attorney For Applicant